No. 20-3289

United States Court of Appeals for the Sixth Circuit

Nicholas K. Meriwether,

Plaintiff-Appellant,

v.

THE TRUSTEES OF SHAWNEE STATE UNIVERSITY—Francesca Hartop, Joseph Watson, Scott Williams, David Furbee, Sondra Hash, Robert Howarth, George White, and Wallace Edwards—in their official capacities; JEFFREY A. BAUER, in his official capacity; ROBERTA MILLIKEN, in her official capacity; JENNIFER PAULEY, in her official capacity; TENA PIERCE, in her official capacity; DOUGLAS SHOEMAKER, in his official capacity; and MALONDA JOHNSON, in her official capacity,

Defendants-Appellees.

On Appeal from the United States District Court
for the Southern District of Ohio
Case No. 1:18-cv-00753-SJD
The Honorable Susan J. Dlott

BRIEF OF *AMICUS CURIAE* DR. PAUL R. MCHUGH, M.D., AND OTHER MEDICAL AND SCIENTIFIC EXPERTS IN SUPPORT OF PLAINTIFF-APPELLANT NICHOLAS K. MERIWETHER AND REVERSAL

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CORPORATE DISCLOSURE STATEMENT

Pursuant to 6th Cir. R. 26.1, *Amici Curiae* submit the following disclosures:

1. Dr. Paul R. McHugh, Dr. Paul Hruz, Dr. Abilash Gopal, Dr. Quentin Van Meter, Dr. Andre Van Mol, and Dr. Michelle A. Cretella, are not subsidiaries or affiliate of a publicly owned corporation.

2. The Christian Medical & Dental Associations is a non-profit organization. It has no parent corporation and no publicly held company holds 10% of its stock.

3. The American College of Pediatricians is a non-profit organization. It has no parent corporation and no publicly held company holds 10% of its stock.

4. The Catholic Medical Association is a non-profit organization. It has no parent corporation and no publicly held company holds 10% of its stock.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

INTEREST OF *AMICUS CURIAE*[1]

Amicus Curiae Dr. Paul R. McHugh is the University Distinguished Service Professor of Psychiatry at the Johns Hopkins University School of Medicine. From 1975 until 2011, Dr. McHugh was the Henry Phipps Professor of Psychiatry and the director of the Department of Psychiatry and Behavioral Science at Johns Hopkins. At the same time, he was psychiatrist-in-chief at Johns Hopkins Hospital with overall responsibility for the proper care and treatment of patients with, among other issues, sexual disorders.

Dr. Paul Hruz is board-certified in pediatrics and pediatric endocrinology. He is an Associate Professor of Pediatrics, Endocrinology, Cell Biology and Physiology at the Washington University of Medicine.

Dr. Abilash Gopal M.D. is a board-certified psychiatrist in practice in San Francisco, CA.

Dr. Quentin Van Meter is board certified in pediatrics and pediatric endocrinology in practice in Atlanta, Georgia, and is an Associate

[1] No counsel for a party authored this brief in whole or in part, and no party, party's counsel, or any person other than *amicus curiae* or his counsel contributed money intended to fund preparation or submission of this brief. This brief is filed with consent of the parties.

Professor of Pediatrics at Emory University School of Medicine and Morehouse College of Medicine.

Dr. Andre Van Mol is a board-certified family physician and Co-chair of the Committee on Adolescent Sexuality for the American College of Pediatricians

Dr. Michelle Cretella is the full time Executive Director of the American College of Pediatricians and a general pediatrician with a special interest in adolescent mental and sexual health.

The Christian Medical & Dental Association is a 501(c)(3) that provides resources, networking opportunities, education and a public voice for Christian healthcare professionals and students.

The American College of Pediatricians is a national organization of pediatricians and other healthcare professionals dedicated to the health and well-being of children.

The Catholic Medical Association is the largest association of Catholic individuals in health care. Their mission is to help their members to grow in faith, maintain ethical integrity, and provide excellent health care in accordance with the teachings of the Church.

ARGUMENT

I. Sex is Binary, Innate, and Immutable.

"The existence of two sexes is nearly universal in the animal kingdom,"[2] a realm which includes *us*—that is, the species *homo sapiens*. In the biological sciences as well as in medical research and practice, the term s*ex* refers precisely to the two halves of any species, male and female. The two halves result from the *binary* division of all members, according to whether any individual is suited to play one, or the other, of the two roles in reproduction. "The essential purpose of sexual differentiation, the development of any male- or female-specific physical or behavioral characteristic, is to equip organisms with the necessary anatomy and physiology to allow sexual reproduction to occur."[3] This structural difference for the purpose of reproduction is the *only* "widely accepted" way of classifying the two sexes.

This definition of sex is clear and stable. It does not require any arbitrary measurable or quantifiable physical characteristics or behaviors to apply. It requires instead a basic understanding of the

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[2] *See* Bronwyn C. Morrish & Andrew H. Sinclair, *Vertebrate Sex Determination: Many Means to an End*, 124 REPRODUCTION 447–457 (2002).
[3] Wilhelm, Palmer, & Koopman, *Sex Determination and Gonadal Development in Mammals*, 87 PHYSICAL REV. 1 (2008).

reproductive system and the reproduction process. The division of human beings into male and female according to reproductive function possesses the solidity and transparency needed to serve as an explanatory variable in rigorous scientific experimentation and medical research.

Human beings are either male or female.[4] This characteristic is *innate*. "[I]n mammals, the sexual fate of the organism is cast at fertilization."[5] The decisive event is the contribution by the father of an "x" or a "y" chromosome: an "X-carrying sperm produces a female (XX) embryo, and a Y-carrying sperm produces a male (XY) embryo. Therefore, the chromosomal sex of the embryo is determined at fertilization."[6] This sexual dimorphism is typically not apparent to observation until approximately twelve to fourteen weeks of pregnancy. The development

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[4] "Intersex" is not an additional category that erodes our understanding of sex as male or female based on reproductive roles. "Intersex" is instead an anomalous condition that in fact underscores the norm of male and female. In science, the anomalous does not disprove or subvert the normative. For example, humans have twenty-three pairs of chromosomes. The anomaly faced by persons with Down Syndrome, a third copy of chromosome 21, does not change what is true about human genetics any more than "intersex" changes what is true about sex. Indeed, the expression for those unfortunate cases confirms this typology: *ambiguous* genitalia or reproductive systems tell us that there can be unsuccessful assimilation to either *male* or *female*.

In an important recent paper criticizing the conflation of sex with "gender" and "gender identity" in the forthcoming British census, Alice Sullivan asserts that it "is clearly a fallacy to suggest that the existence of a small minority of anomalous cases invalidates the existence or usefulness of a categorical variable. From the point of view of social statistics, it is strange indeed that such a tiny element of noise or error should be seen as problematic. Think of any other category used in social science – social class, educational level, ethnic group – and it is obvious that each of these concepts is far murkier and more open to measurement ambiguity and error than sex. Sex is arguably the cleanest variable in our arsenal." *See* "Sex and the census: why surveys should not conflate sex and gender identity", 2020 *International Journal of Social Research Methodology*.

[5] *Supra* note 3, at 1.

[6] T.W. SADLER, LANGMAN'S MEDICAL EMBRYOLOGY 40 (2004).

of the human beings as specifically male or female nonetheless begins at the onset of life. Even though the very young embryo carries within it the primitive structure of *both* reproductive systems, *male* embryos secrete testosterone, which leads to the development of the male reproductive system. Embryonic and thereafter fetal development as male or female is directed from *within*, according to genetic information present in the zygote from the moment of fertilization.

The ubiquity of sonograms during pregnancy means that now almost everyone recognizes that the sex of a child can be ascertained before birth. As a matter of scientific fact, however, sex could be ascertained at fertilization. *See* Keith L. Moore & T.V.N. Persaud, THE DEVELOPING HUMAN: CLINICALLY ORIENTED EMBRYOLOGY 307 (2003) ("[T]he type of sex chromosome complex established at fertilization determines the type of gonad that differentiates from the indifferent gonad. The type of gonads present then determines the type of sexual differentiation that occurs in the genital ducts and external genitalia.").

Contrary to one popular myth, no one can change his or her sex. Some people have surgeries which they describe as a "sex-change" operation' lately, these procedures have acquired in some ideological

quarters the name, "gender-confirming" procedures. No matter what they are called, however, they never succeed in providing any patient with the sex organs or the reproductive capacity of a member of the opposite sex. Doing *that* is simply impossible: no man who "transitions" to female ever actually does so, and vice versa. All that these surgeries can possibly provide are gross simulacra of the other sex's reproductive organs. These operations nonetheless invariably succeed in making anyone who undergoes them permanently sterile.

Even if modern medicine improved its capacity to engineer sex organs, these operations could still never "change" anyone's sex. The reason is that no "sex-change" operation even touches the vast multitude of other sex-differentiated characteristics of the human body, psychology, emotional make-up. The indelible biological differences between male and female go far beyond external genitalia. In fact, they inhabit every one of the human body's billions of nucleated cells. Each cell in our body has a sex—the same sex—male or female. Sex is in this most profound way indelibly imprinted upon every part of our bodies. Sex is therefore *immutable*.

There are many subsequent events in development that may alter the phenotypic expression of sex. *None* changes anyone's sex.

II. Science and Medicine Depend Upon Rigorous Understanding of Sex as Binary, Innate, Immutable.

That sex is binary, innate, and immutable is a complex fundamental reality that anyone doing basic or applied research in the biological sciences (or who teaches them), and anyone who practices medicine, including psychiatry (or who teaches them), presupposes, recognizes, uses, and applies. Keeping up a robust and uncompromised awareness of sex as binary, innate, and immutable is essential to successful work in all these areas. Forgetfulness of it is a recipe for failure—*as* scientists and doctors.

The reason why this clarity about sex is crucial can be simply stated: each person's indelible reality as male or female *pervades* the body throughout the life of the individual.

Until recently, the role of the chromosomes that determine sex had "been thought to be strictly limited to the development of reproductive tissues and organs. As a consequence, any sexually dimorphic physiology in other non-reproductive tissues, such as the liver, kidneys, or the brain, has been attributed to that tissue's response to sex hormones released by

reproductive tissues. The thesis was that any differences in cellular physiology between male and female cells merely result from that cell's exposure to outside hormonal influence, rather than the cell's genetic content."[7]

Now we know better. Each and every cell of a woman's body is *female*. Each and every cell of a man's body is *male*. While the commonalities and similarities of men and women still far outweigh the differences, keeping in mind the differences is essential to sound research and competent clinical practice. "[I]t is becoming increasing clear that there are in fact, multiple genes on the X and Y chromosomes that have nothing to do with gonadal development but that still have an impact upon the physiology of all cells in the body. This means that not only does an individual have a sex, but each and every cell within that individual's body also has a sex."[8]

In an important 2017 journal article, Tracy Madsen and her colleagues wrote:

> The completion of the human genome project in 2003 also influenced our understanding of the effects of sex on human biology and disease through the sequencing of all human genes, including

[7] Neil A. Bradbury, "All Cells Have a Sex: Studies of Sex Chromosome Function at the Cellular Level", in *Principles of Gender-Specific Medicine",* 3d edition, 269.
[8] *Id*.

> those located on sex chromosomes. Understanding the location and function of genes located on sex chromosomes throughout the body's cells, not just in reproductive organs, was critical to understanding that biologic sex not only affects human health and disease via sex steroids and reproductive organs but also affects cells in all organ systems.[9]

Epidemiologists now understand that "[s]ex differences are present across most disease states and organ systems." [10] "Important features of an illness… may display meaningful differences across the biological sexes. In this way, the actual causes of disease can be more effectively targeted on an individual level."[11] "Today, the importance of accounting for the variability between male and female biology in research is widely recognized. There exists a clear contribution of biological sex to health outcomes across a wide spectrum of conditions."[12]

This now-universal recognition of sex differences realization goes beyond the truths that only women may develop ovarian cancer and only men, prostate cancer. This realization includes, but transcends, the easily noticed differences in the way that many other common ailments,

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[9] Tracy Madsen et al., *Sex- and Gender-Based Medicine: The Need for Precise Terminology*, 1 GENDER AND THE GENOME 122, 123 (2017).
[10] *Id*. at 123.
[11] Nathan Huey, "Treating Men and Women Differently: Sex Differences in the Basis of Disease," HARVARD UNIVERSITY GRADUATE SCHOOL OF ARTS AND SCIENCES (Oct. 30, 2018), http://sitn.hms.harvard.edu/flash/2018/treating-men-and-women-differently-sex-differences-in-the-basis-of-disease/.
[12] *Id.*

such as autism and alcoholism, affect men and women. Some common respiratory illnesses, affecting millions of American each year, bear very differently upon women than upon men. Of COPD one author wrote, "Finally, genetics also play a significant role in the development of COPD. Multiple genes have been associated with COPD. Mutations in these genes can predispose individuals to early onset COPD and may even make them more sensitive to the effects of smoking with respect to developing lung disease."[13]

It is therefore unsurprising that the National Institutes of Health now requires consideration of sex in its life sciences research proposals. The NIH states that "[t]here is growing recognition that the quality and generalizability of biomedical research depends on the consideration of key biological variables, such as sex." "Failure to account for sex as a biological variable may undermine the rigor, transparency and generalizability of research findings."[14]

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[13] *Id.*

[14] "Consideration of Sex as a Biological Variable in NIH-funded Research", page 1 https://orwh.od.nih.gov/sites/orwh/files/docs/NOT-OD-15-102%20Guidance.pdf The NIH sharply distinguishes sex from "gender" ("Sex is a biological variable defined by characteristics encoded in DNA, such as reproductive organs and other physiological and functional characteristics. Gender refers to social, cultural, and psychological traits linked to human males and females through social context." *Id.*". The NIH also stresses the far greater significance of sex to "gender" in research. ("Consideration of sex may be critical to the interpretation, validation, and generalizability of research findings. Adequate consideration of both sexes in experiments and disaggregation of data

Where disease and illness are recognized to be "sexed" in these ways, it follows that research into cures and therapies must be "sexed" as well. "For many years, it was simply assumed that women would react to drugs and exposures (like cigarette smoke) in a reasonably similar way as men do. Their inclusion in clinical studies would thereby only introduce unnecessary complications from the female hormonal cycle. Although this made studies with men in this sense simpler, it unfortunately caused them to be ungeneralizable to the population at large."[15]

Recent "[s]ex-specific research revealed important sex differences in the use of aspirin for the primary prevention of acute myocardial infarction (AMI)."[16] These findings corrected decades of comparative ignorance, born of the assumption that sex differences could be assumed away. Data from the "Physician's Health Study" in 1989 had showed that aspirin was effective for the primary prevention of AMI but included only male physicians. In 2005, a similar study was undertaken with 39,000 female health professionals, and the effect of aspirin on AMI was found

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by sex allows for sex-based comparisons and may inform clinical interventions. https://orwh.od.nih.gov/sex-gender/nih-policy-sex-biological-variable

[15] *Id.*

[16] Madsen, *supra* note 9, at 123.

to be very different from that seen in men in the 1989 study. Aspirin was not found to be beneficial in women younger than 65, and women taking aspirin had more hemorrhagic strokes than those on placebo."[17]

The implications of the "sexed" nature of disease and well-being for medical practice are profound. "Sex is one of the most obvious candidates for a first step towards individualized healthcare. It is both unambiguous in the majority of cases as well as a significant factor in the development and progression of a host of diseases."[18] As we embark on an era of so-called "personalized medicine," consideration of the impact of pharmacological therapies on "male" and "female" cells needs to be made. It may turn out that for many drugs, the sex of the target cell is not important, but for some drugs the sex of the target cell may have critical clinical implications.

Ineradicable sex differences pervade human beings in ways that go beyond the natural science of our bodies. Research in and the practice of psychiatry and psychology depend upon undiminished clarity about the identity of a patient or a research subject as male or female, unchanged from the moment of conception. Clarity and consistency about sex is

[17] *Id.*
[18] *Id.*

crucial in psychiatry and psychology for two connected reasons. First, each person's indelible reality as male or female *pervades* the *psyche*, as well as the body, throughout the life of the individual. Second, there is overwhelming scientific evidence that men and women are markedly different across a whole range of cognitive and personality traits, elements of emotional make-up, and aspects of psychological well-being.

These many differences include but go well beyond the obvious facts that women are more relational than men, and that men are more reluctant to share their feelings—such as they are—than women. Many other of these differences are manifest for all to see. But researchers (most prominently including David P. Schmitt[19]), have shown that there are significant differences according to *sex* in other areas, including sexual arousal patterns, attitudes, and behaviors, among many others. Schmitt referenced, for example, one comprehensive review essay, which identified sixty-three "psychological sex differences discussed that have been replicated across cultures."[20] Of course, cultural patterns and social expectations partly explain some of these differences. But Schmitt

[19] *See, e.g.,* David P. Schmitt, *The Evolution of Culturally Variable Sex Differences*, *in* THE EVOLUTION OF SEXUALITY 221, 222 (Todd K. Shackelford & Ranald D. Hansen eds., 2015).
[20] *Id*, at 221, citing L. Ellis, "Identifying and Explaining Apparent Universal Sex Differences in Cognition and Behavior," 51 PERSONALITY AND INDIVIDUAL DIFFERENCES 552 (2011).

convincingly shows that these many differences cannot be satisfactorily explained by a patriarchal (or any other) cultural pattern. "In fact," Schmitt wrote, "most psychological sex differences…are conspicuously *larger* in cultures with more egalitarian sex role socialization and greater sociopolitical gender equity."[21]

Among the most salient of these sex differences are those pertaining to *sex*. The social scientific evidence about frequency of masturbation and pornography use,[22] the number of sexual partners,[23] as well as more qualitative research into the nature of male and female sex drive and their preferred place of sex within the overall pattern of the relationship,[24] confirms that nature, and not just nurture or socialization, explains the differences between men and women that almost anyone who dated observed from the get-go. That the paraphilias listed in the DSM 5 are, with the partial exception of sadomasochism, almost entirely

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[21] *Id*. at 221, 222.
[22] *See* MARK REGNERUS, CHEAP SEX: THE TRANSFORMATION OF MEN, MARRIAGE AND MONOGAMY 140 (2017).
[23] *See, e.g.*, Norman R. Brown & Robert C. Sinclair, *Estimating Number of Lifetime Partners: Men and Women Do It Differently*, 36 J. SEX RES., 292, 292 (2010) http://dx.doi.org/10.1080/00224499909551999 (analyzing why men tend to report more sexual activity than women).
[24] *See* Regnerus, *supra* note 22, at 22–23.

male phenomena, is further evidence.[25] It is perhaps most striking that pedophiles are almost all men.

These sex differences about sex largely explain the fact commonly encountered by mental health professionals who treat, say, a "transgendered" person who has had surgeries and hormone treatments and who currently identifies as a woman, for sexual behavioral or relationship problems. Unsurprisingly, these are usually those of a *man*—because they are.

III. Neither "Gender" nor "Gender Identity" is Sex, and Neither Has a Bearing on How Scientists or Doctors Identify Their Research Subjects or Patients as Male or Female.

Someone's "gender" or "gender identity" has no bearing on that person's sex. Madsen and her colleagues (who argue—unpersuasively, in our view—for greater recognition of the "gendered" nature of disease and health) say that "gender" is a "psychological and social construct referring to the attitudes, feelings, and behaviors that a person and his or her culture associates with a person's gender concordant with his or her sex at birth."[26] The NIH defines "sex" as "a biological variable defined

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[25] *See* AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 685–705 (5th ed. 2013).

[26] Madsen, *supra* note 9, at 122, 124.

by characteristics encoded in DNA, such as reproductive organs and other physiological and functional characteristics. Gender [on the other hand] refers to social, cultural, and psychological traits linked to human males and females through social context."[27] The Shawnee State "nondiscrimination" rules defined "gender identity" as a person's "innermost concept of self as male or female or both or neither—how individuals perceive themselves and what they call themselves."

Sex is innate, fixed, and binary. "Gender" and "gender identity" denote a subjective and fluid belief system based on cultural constructs. One's sense of self and one's desire to present to others as a member of the opposite sex have no bearing whatsoever upon the objective biological reality that one is male or female. The difference between sex and "gender" (and "gender identity") is parallel to the difference between ontological realism (the view that reality exists independent of anyone's thoughts or feelings about it), and a pronounced solipsism: reality is what one thinks or wishes it to be.

The terms "sex" and "gender" (and "gender identity") are therefore not interchangeable or functionally similar. They surely are conceptually

[27] "Consideration", *supra* note 14, at 1.

unrelated, even radically different. There is no doubt a substantial statistical overlap between those who are in fact male and those who (as it were) "identify" as male. But the percentage of persons in any given population who are (in this way) "cisgender" is contingent. There is no necessary correlation in any event between adopting, say, a female gender identity and being of the female sex.

The popular notion regarding "gender identity" that says a person has a "boy mind in a girl body" (or vice versa) is not true. If it is supposed to be taken even more or less literally, it is an idea that should be summarily dismissed. This manner of speaking is not, however, meaningless; for it is an idiom used by a person seeking to describe some type of distress to others. Just as we have seen before during the height of the discredited multiple personality disorder era, such testimonials are not truth, even if one asserts it as a truth claim. Such a "view implies that gender identity is a persistent and innate feature of human psychology."[28]

Indeed, and notwithstanding the many indelible differences between men and women, there are problems with the methodological

[28] L. Mayer, P. McHugh "Sexuality and Gender", 50 *New Atlantis* 4, 106 (2016).

limitations of any imaging study that assesses "girl brain" and "boy brain" theories:

> [I]t is now widely recognized among psychiatrists and neuroscientists who engage in brain imaging research that there are inherent and ineradicable methodological limitations of *any* neuroimaging study that simply associates a particular trait, such as a certain behavior, with a particular brain morphology. (And when the trait in question is not a concrete behavior but something as elusive and vague as "gender identity," these methodological problems are even more serious). [29]

"Transgender" is, moreover, not a third or intermediate sex as some advocates contend. Based on "the neurobiological and genetic research on the origins of gender identity, there is little evidence that the phenomenon of transgender identity has a biological basis."[30]

> [T]here are no studies that demonstrate that any of the biological differences being examined have predictive power, and so all interpretations, usually in popular outlets, claiming or suggesting that a statistically significant difference between the brains of people who are transgender and those who are not is the cause of being transgendered or not — that is to say, that the biological differences determine the differences in gender identity — are unwarranted. In short, the current studies on associations between brain structure

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[29] *Id*. at 103.

[30] *Id*. at 106. There could be some biologically based influences which, when they interact with particular environmental conditions, might predispose an individual to develop an "identity" that is discordant with his or her sex. But this does not mean that anyone is "transgender"; that is, a boy trapped in a girls' body or vice versa.

and transgender identity are small, methodologically limited, inconclusive, and sometimes contradictory.[31]

IV. Neither "Gender" Nor "Gender Identity" Is Useful In Scientific Research or Conducive to Medical Progress.

"The hypothesis that gender identity is an innate, fixed property of human beings that is independent of biological sex—that a person might be 'a man trapped in a woman's body' or 'a woman trapped in a man's body'—is not supported by scientific evidence."[32]

It is nevertheless true that, alongside the universal current appreciation of the role of *sex* in understanding the human body and diseases, some say that "gender" plays a comparable role. Madsen and her co-authors are among those who would elevate the role of "gender" in science and medicine.[33]

Amici disagree. In fact, there is little scientific evidence for the proposition that "gender" or "gender identity" is or can be a significant variable in research in biology or other life sciences or in the clinical practice of medicine. *Amici* maintain that exaggerating the role of "gender" (or "gender identity") in science and medicine—and worse,

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[31] *Id.* at 104.
[32] *Id.* at 8.
[33] Even so, these authors emphasize that the terms "sex" and "gender" should *never* be confused with, or treated as anything but, different names for different realities that can, in different ways, each be relevant to medical research and practice.

likening its importance to that of sex—deprecates the vastly more important role of sex as a variable. It also produces harmful confusion within, and about, science and medicine. [34]

Amici offer no opinion about any *particular* claim by researchers or clinicians to have discovered how anyone's self-perception as male or female might affect the course of any problem or its proper treatment. It would be dogmatic to rule out that possibility *ex ante,* and *amici* are scientists, not dogmatists or ideologues. *Amici* prescind from all such retail or small-caliber claims. *Amici* focus instead upon the larger, categorical claims that "gender" or "gender identity" (or both) could fruitfully play a significant role in scientific research and in medical practice, even a role comparable to that universally recognized for sex. There are at least four reasons for judging these claims to be grossly mistaken and seriously misleading.

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[34] But not *only* in science and medicine, as the research of David Schmitt (and others) amply shows. *See also* the compelling conclusions of Alice Sullivan, occasioned by the British government's stated intention to give those who respond to the 2021 census the option of reporting their "gender" as if it is their sex: "We need accurate data, disaggregated by sex in order to understand differences in the lives of women and men, and in order to tackle sexism. Sex matters from the start of life, as illustrated by international differences in the sex ratio at birth due to son preference. Sex is a powerful predictor of almost every dimension of social life: education, the labour market, political attitudes and behaviour, religion, crime, physical health, mental health, cultural tastes and consumption – the list goes on. It is difficult to think of an area of life where sex is not an important dimension for analysis. Women have historically been second class citizens when it comes to data, and a 'male as norm' attitude was still apparent in much quantitative social science as recently as the 1980s. Nevertheless, few quantitative social scientists today would question the central place of sex as an analytic category." [Sullivan's numerous internal citations omitted]. *Supra* note , at 4.

First, "gender" can never be a significant factor in biology and medicine for the simple reason that it has no biological basis, in the sense that (in the present state of research), someone may claim to be a woman who has all the biological and psychic characteristics of a man.

Second, "gender" could never be the factor in scientific research that *sex* is because "gender" is multiple and mutable; that is, there are more than two genders and many persons change their "gender identity" as they go through life. "Gender" is therefore incapable of supplying the basis for rigorous multivariable scientific analysis.

Third, "gender" is fluid where *sex* is not. That is, almost everyone is male or female from top to bottom, and in every cell of his or her body. "Gender", on the other hand, is a malleable and fluctuating social construct which cleaves to some proto- if not stereotypical conception of how a given culture defines *masculine* and *feminine.* It is likely that, in any given social milieu, most men will have some "feminine" traits, and most women will have some "masculine" traits. Some persons will have substantial amounts of both. A few persons may be—in the relevant sense of the term "gender"—equally male and female. To which "gender" would they belong?

Fourth, "gender" is a social construct limited to human beings. The rest of the animal kingdom lacks the rational apparatus to conjure "gender" and "gender identity." In fact, the rest of the animal kingdom lacks the wherewithal to do more than instinctively distinguish male from female. Human beings alone possess the cognitive and conceptual capacities to do all things, including to classify the rest of the animal kingdom as male or female and to perform scientific experiments upon them. The limited but still indispensable and substantial role of research using non-human subjects in projects designed for the sake of human patients therefore has no place in it for "gender" specific experiments.

In light of these differences between the two terms and the very limited utility of "gender" in life sciences research and in medical practice, we question whether the increasing prominence of "gender" and "gender identity" alongside *sex* specific research and treatments is itself a product of ideology, and not of science.[35] The American Medical Association (AMA) and the American Psychiatric Association (APA), for example, so thoroughly confuse sex and gender identity or transpose

[35] As a matter of fact, sometimes this emerging use of the concept of gender identity is no more than an ideological gesture. One leading text, for example, is titled "Principles of Gender Specific Medicine" where, in fact, the book mostly explores *sex*-specific medicine.

them, as if gender identity is innate and fixed at birth, while sex is malleable and the body configurable to one's sense of gender identity, that *amici* judge the positions of these professional groups to be based upon ideology, not science.

This ideological displacement of science leads to the position evidently asserted by the complainant in this case, namely, that what he feels and thinks about himself constitutes the "truth" about him, which the university would force the entire campus community to accept, and to treat as real. By so "weaponizing" complainant's solipsism, the university endangers the integrity of scientific research and knowledge.

V. Gender Ideology Subverts Science and Medicine.

The sex of the student who confronted Dr. Meriwether and who later complained to the university is male. That is a matter of demonstrable biological fact. Moreover, one's sex—whether male or female—is determined at fertilization and nothing thereafter can change it. The complainant in this case evidently had decided that he has a "gender identity" and that this gender identity is "female." Nonetheless, were the complainant to enroll in a Shawnee State professor's epidemiological research project, or agree to be part of an on-campus

FDA-approved clinical drug trial, basic research protocols would require that the student be recorded as a "male" participant. Similarly, were the complainant to go to the campus infirmary for medical treatment or for psychiatric evaluation, medical ethics and minimum standards of professional care would require that the student be treated as what he as a matter of fact is, namely, male.

But *would* the complainant be treated as a male?

Nothing in the lower court's recitation of the facts about the complaining student or in the University's policies at issue corresponds to *any* biological or physiological fact. There is no mention in the record, for example, that the complainant here engaged in *any* pharmaceutical protocol or medical intervention that would purportedly "change" his sex. As far as the instant record shows and considering the matter as scientific and medical experts, there was nothing "female" about the complainant, save his demand to be treated as one.

But the Shawnee State Administration requires all faculty and staff to address students according to the student's preferred form of address, including the use of the student's preferred pronoun. At Shawnee State University, it appears as though all campus personnel,

including doctors and scientific researchers, would face disciplinary penalties for doing otherwise. It surely seems therefore that if the complaining student presented to scientists or medical personnel, those employees would be obliged to address and, up to a point at least, treat the complainant as if he were a woman.

Amici would not defend the imposition of what surely appears to be a campus speech code. One reason why not is that Shawnee State's regulations would violate the consciences of persons such as Dr. Meriwether. For he evidently holds (as he should) that sex is binary, innate, and immutable and that the complainant is therefore a young man. Forcing him to say or imply otherwise – as Shawnee State would do by requiring him to address and refer to the complainant as a woman – is to force Meriwether to assert what he believes to be false. There is a word for asserting something one believes to be false: that word is *lie*.

Of course, someone might defend Shawnee State by denying that it requires Dr. Meriwether, or anyone else, to lie. This reply could concede (as it must) that the complainant's *sex* is indeed male. The reply would be, further, that the regulations require only that Dr. Meriwether no longer address and refer to the complainant according to his male *sex,*

but – truthfully, as it were – according to "her" "gender" or "gender identity" as the complainant directs.

Amici would not defend *this* speech code, either, for it conflates sex with "gender" (and "gender identity") to the detriment of science and medicine.

The plain fact is that the English language employs a clustered set of binary terms – him/her; he/she; male/female; boy/girl/; man/woman – exhaustively to refer to all human persons as either male or female. Until very recently these paired terms uncontroversially referred univocally to a person's innate and immutable *sex*. Shawnee State would now stipulate by fiat that the binary terms henceforth shall refer, not to a scientific, bodily and thus personal reality, but instead to someone's subjective feelings, longings, imaginings, wishes, and desires.

The English language is not, however, under the control of Shawnee State. The University is, however, incapable of altering by decree the longstanding referents of those binary terms. Nor is nature, the human body, and the innumerable ways in which human females differ from males, women differ from men. All that Shawnee State can possibly do is to render those heretofore stable and perspicuous binary terms

ambiguous, equivocal. For example: the word "she" uttered at Shawnee State henceforth will mean *either* a member of the female sex *or* a member of the male sex who wishes to be considered a woman. All that Shawnee State can possibly do is to confuse everyday life by conflating sex and "gender" (and "gender identity") -- and to gravely damage science and medicine, too.

This confusion is going to last. Although the University may be able to mandate a change in occasional expression, it cannot so easily re-engineer a whole community's habits of mind, or transform what everyone knows to be true. Students and faculty alike will no doubt continue indefinitely to use their common sense and powers of observation, and recognize that the complainant, for example, is a *man* no matter what he imagines himself to be. People on campus will indefinitely continue to speak candidly and truly about it, save where they sense that they are officially on-duty, or at risk of being overheard by a potential informant. Thus, double-speak and a certain cynicism will fester.

Besides, when Shawnee State settles down to considering the entailments of its *ukase,* it will find that it cannot erase, no matter how

hard it tries to, the truth that the complainant remains a *male*, a *man*. Shall the complainant be allowed to compete in women's sports? Live in the women's dorms? Count as female in various professional and government-mandated campus censuses? Count as lesbian if complainant is sexually attracted to women? Indeed, *would* the complainant be recorded as male, if he enrolled in a clinical drug trial? *Would* he be treated as a male at the campus infirmary?

Amici are alarmed at the flight from reality which gives rise to, and which sustains, speech codes such as Shawnee State's. *Amici* are worried about the everyday confusions they cause. Most important, though, is that *Amici,* speaking as scientific and medical experts, strongly oppose the imposition of such ideological regimes, because such they threaten the integrity of science and medicine, in three crucial ways.[36]

First, where researchers continue to hold the truth about sex (as their work requires them to do) amidst a culture shimmering with equivocations wrought by "gender" ideology, effective communication of scientific and medical research will be seriously impeded.

[36] *Amici* nonetheless agree with Alice Sullivan, who wrote that it "is impossible to understand the proposed change to the meaning of the sex question in the census without reference to a broader political project aimed at replacing sex with gender identity in law, language and data-collection." *Supra* note 4, at 5.

Misunderstanding of published scientific findings and medical knowledge are certain to be widespread. The communications seriously impeded will include those in the classroom, as professors and teachers speaking (in effect) one language, try to educate students who speak another.

Second, the forced substitution of ideology for reality in our concepts and vocabulary about sex, especially where it is enforced by university regulations and professional discipline, will sooner rather than later undermine the production and dissemination of knowledge, as professors and other researchers begin to bow to the new orthodoxy. Science and medicine will then be especially undermined, because these fields of study depend so vitally upon an abiding commitment to empirical methods, and to ontological realism.

Part IV of this Brief suggested that there is already a growing tendency in scientific research to artificially inflate the explanatory role of "gender" and "gender identity" on research, notwithstanding scant evidence for its importance. If this ideological pseudo-science is not arrested, the effects downstream are likely to be calamitous.

Third, where medical care lies downstream, those "calamitous" effects could potentially include misguided and even dangerous treatments of patients.

CONCLUSION

Science is an experimental discipline. Medicine, insofar as it is scientific, is also experimental. The progress and good fruits of both science and medicine depend upon the scrupulous commitment by those working in those fields to ascertain the truth about nature and about ourselves by rigorous experimentation. Precisely to preserve the integrity of these invaluable endeavors, *Amici* reject speech codes and all other ideological experiments with science and medicine.

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Date: June 3, 2020

CERTIFICATE OF SERVICE

Under FED. R. APP. P. 31 and 6th Cir. R. 31, I hereby certify that on June 3, 2020, a digital copy of the brief was filed electronically with the Court using the its electronic filing system, which automatically sends an electronic notification to all attorneys of record.

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